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ABSTRACT

The decisions teachers make about what to assess and how to assess it send messages to students about what is important. Portfolio assessment is a viable alternative for assessing students' understanding while focusing on the process of learning. In this study, 283 students in an undergraduate teacher education course over 3 years developed portfolios. Researchers wanted to understand student experiences in developing portfolios and to refine the portfolio process. Data were collected from student reflections, portfolio conferences, final course evaluations, and evaluations after each portfolio review. Almost all of the students (275 of the 283) reported that developing the portfolio and conferencing with the instructor was a great experience. Many students expressed a high degree of satisfaction in the portfolio as a demonstration of what they had learned. Students felt that the portfolio reflected individuality and made them reflect on their work and teaching. They also thought that conferences helped them prepare for actual teaching interviews. Portfolio assessment helped these students address goals for a course and demonstrate how these goals had been met in the course of the semester. An appendix lists some goals for teacher portfolio use. (Contains 34 references.) (SLD)

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ED 410 247

Using portfolios to assess students in an undergraduate teacher education course: What did the students and instructor learn?

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The decisions teachers make about what gets assessed and how it gets assess sends a message to students about what is important (Wilson, 1993). Teacher evaluation of student learning in the college classroom has traditionally relied upon quantifiable methods to assess outcomes. College professors often rely upon evaluation of students' final products and often ignore the learning process students undergo while completing assignments. Many researchers question whether these outcome based measures of evaluating students completely capture their abilities and accomplishments. Adams and Hamm (1992) state,

> Traditional assessment generally ignores performance or process measures. Interest is growing in authentic (meaningful) assessment which allows students to select, collect, and reflect on their learning and gives them an opportunity to use critical thinking skills as they select the academic efforts that might best represent them. The process itself is a powerful educational experience (p. 103).

Recent teacher education reform movements including those of the National Board for Professional Teaching Standards (NBPTS) and Interstate New Teacher Assessment and Support Consortium (INTASC) acknowledge our need to move towards alternative forms of assessing preservice teacher performance (Gilman & Rafferty, 1994; National Council for Teachers of Mathematics, 1995; Webb, 1993; Wiggins, 1993). In addition, Darling Hammond (1990) has brought our attention to the need to focus on the role evaluation can play in improving instruction in the classroom. Recommendations from research suggests that multiple measures and sources of data about teaching are more powerful and reliable then single measures of performance (Herman, Aschbacher & Winters, 1992). As a result of these recommendations, teachers must begin to weave instruction and assessment together (Cooney, et al, 1993; Moon & Schulman, 1995). Portfolio assessment is one viable alternative for assessing students' understanding and, at the same time, focusing on the process of learning.

Current literature about portfolio assessment have been limited to use of portfolios, types of portfolios, how to use portfolios, how to promote student reflection, issues related to portfolio use, effects on teaching, and how to develop a rubric to grade a portfolio (Arter, 1994; Barton & Collins, 1993; Bird, 1988; Hill, et al, 1994; Jackson, 1992; Wheeler, 1993; Wilson, 1993). We sought to understand how portfolios could contribute to the assessment and learning of students in a preservice teacher education program.

Background

As with many things in education, it would be difficult for everyone to agree on one definition or version of what a portfolio is. Paulson, Paulson & Meyer (1991) provide a working definition that we used to guide the students' portfolio structure:

> A portfolio is a purposeful collection of student work that exhibits the students efforts, progress, and achievements in one or more areas. The collection includes student participation in selecting contents, the criteria for selection, the criteria for judging merit, and evidence of student self reflection. The portfolio communicates what is learned and why it is important (p. 60).

While it would be undesirable to standardize the use of portfolios, it is important that the portfolio process leads students to make connections between what they are learning and the process of how they have learned. Researchers generally agree that a portfolio's contents, presentation, and form should vary depending on its intended purpose (Barton & Collins, 1993; Bird, 1990; Cole, 1992; Wolf, 1991). There are many ways to achieve the same goal. And, the variety in forms and methods that a portfolio may take is what makes the portfolio process so valuable.

There were a number of reasons I began to use portfolios to assess students. At first, I felt that the assignments I was giving did not truly capture all that student knew. And, I felt that the assignments did not capture the process of learning that took place or the impact of the assignment on my students knowledge about teaching. I was seeking ways to capture student learning as well as their reflections about what they were learning. In addition, I was hoping to get students to think more critically about the assignments they were completing in order to understand the purpose of assignments.

This Study

Two hundred and eighty-three students enrolled in an undergraduate teacher education course over a three year period at a state university in the midwest were participants in this study. All students took the course during their sophomore or junior year in college. The course was the second required in the elementary education major. For almost all of the students, it was the first portfolio assignment they had completed. The instructor of the course, who also served as the primary researcher, had been using portfolios three years previously in teacher education programs. The second author of this paper analyzed data.

The purpose of this study was two fold. First , we wanted to understand student experiences in developing a portfolio as a class assignment at midterm and final points in the semester. From these students we hoped to refine the portfolio process as well as

refine teaching practice to support the development of portfolios. Second, we wanted to document the instructor's process of incorporating and refining the use of portfolios into her course. We sought data which would add to our knowledge about the use of portfolios as an assessment tool as well as practical knowledge that would improve educational practice.

Data were collected from student reflections, portfolio conferences, final course evaluations, and evaluations completed after each portfolio review. Responses on the evaluations were anonymous. In addition, the course instructor kept a journal noting any observations, ideas about implementing portfolios or concerns that arose. Content analysis of narrative data was conducted by sorting data into recurring themes.

The Development of the Portfolio Process

All students in this study completed at least one portfolio as a course requirement. The structure and process of the portfolio have changed with my evolving knowledge about portfolios. In this section I will describe the evolution of the student's portfolio structure to the current system used in the course.

Each semester, the students completed a number of assignments for a grade in the course. When I first began using portfolios, students collected their work that I designated to be included and put it into a portfolio to be graded. Students included reflections on each piece to help me understand their thoughts about the assignments as well as the process they went through in completing them. I would then grade each portfolio without conferencing with my students. I found this process to be tedious. While my students felt the evaluation process was effective, I wanted to enhance the student's role.

It was during my second semester of using portfolios I decided to implement a final portfolio conference with each student in lieu of a final exam. Students used the course objectives listed on the syllabus to structure their portfolios. Their goal was to provide evidence that they had met each of the course objectives (See Appendix A). As students gave me feedback I learned that they wanted a conference earlier in the semester that would allow give them a sense of what it would be like. So, during my third semester I implemented both midterm and final portfolio conferences.

The contents of these portfolios are somewhat structured in that the students are guided in choosing pieces to put in their portfolios. The midterm portfolio is designed to be different from the final portfolio. The portfolios can include completed assignments, class activities, course readings, field experience materials, reflections, and other pieces of evidence students choose to demonstrate their learning. In the course students are given the following structure for their portfolio assignments.

During the course of the semester, you will be asked to organize and reflect upon the assignments completed by developing a portfolio both at the midterm and final points in the semester. The work included in the portfolio will be both representational (your revised, polished work) and developmental (drafts, revisions, feedback, class notes, class activities, etc.). The purpose of this assignment is for you to reflect upon all of your work and synthesize it into a comprehensive representation of your knowledge about teaching and learning. A portfolio captures both the final product and the learning process, promoting growth and emphasizing quality work.

For the ***midterm portfolio (5% of final grade)***, you will provide pieces of your work from the first half of the semester which include:

THREE pieces which show growth/learning/personal development

Each of you will meet with me for an individual portfolio review conference with me. You will be expected to provide a verbal rationale for the pieces in your portfolio.

For the ***final portfolio (20% of final grade)***, you will collect items which are representative in nature. You will decide which pieces to include in this portfolio from all the work and class activities completed throughout the semester which demonstrate your understanding of the nine course objectives listed on page 1 of this syllabus. The items you include in this portfolio should be representative of your understanding of teaching and learning. For each piece you choose, you must provide a rationale for why you included it and how it demonstrates your understanding or growth in teaching knowledge. In this final portfolio, your goal is to show your understanding of teaching and learning by linking the pieces in your portfolio to course objectives listed in the syllabus.

Because this is the first course in the major in which students are asked to maintain a portfolio, I spend approximately two weeks at the beginning of the semester introducing students to what portfolios are. The students read some literature on portfolios to have a better understanding of the process. Students from previous semesters of the course come into class to share their portfolios, to reflect on how their experiences in the course were affected by portfolios, and to provide students with helpful hints in preparing and maintaining a portfolio.

Prior to each portfolio conference, we review expectations, answers questions, and provides more details about the assignment. Students conduct peer reviews with each other during class in order to have a "practice run" prior to their conference. Students are encouraged to write down their thoughts in the form of notes so that they remember what

they were thinking as they chose each piece. They are reminded that the conference is not a test of how much they can remember but an assessment of what they know, written or memorized.

As a class, students collaborate with me to develop a rubric for grading each of the assignments and portfolios. The rubric is then used to grade students' work. Developing a rubric as a whole group has proved to be a long and difficult process to guide. The biggest problem I have had to overcome is the students' traditional perceptions of student and teacher role. Students are clearly used to their instructors solely deciding on the grading criteria and in many cases not even sharing what criteria will be used to grade. So, you can imagine once we got over this hurdle how difficult it was to include students in the process of developing this criteria. In order to facilitate this process, I spend approximately one to two weeks teaching and discussing the issue of grading and how to develop appropriate rubrics. I have tried many different approaches to developing a rubric what everyone agrees on: developing an individual rubric and then working towards developing a class rubric, sharing my ideas for a rubric and allowing students to comment, and just allowing the whole class to start from scratch in developing the rubric. I usually allow the students as a group to decide how they want to approach the task.

Results

The data we will share represent recurring themes of the study as well as perceptions held by a majority of the participants.

<u>At first, expect anxiety and stress</u>

Student responses on questionnaires and conversations during portfolio conferences indicated that using a portfolio was beneficial in a variety of ways. However, at first, almost all students were somewhat anxious about the process of developing a portfolio. This is not surprising if we consider that many times when we experience something unfamiliar we are somewhat anxious. Generally students indicated concern about three areas. First, some students (56 of 283)were simply ***concerned about the amount of time*** it would take to put together a portfolio. They indicated a high level of stress and feelings of being overwhelmed. One student indicated on the questionnaire,

> I thought 'your (sic) crazy.' How much time do I have to get out of this course? I thought it was a project that would take all of my time.

So, on a very surface level, students seemed quite worried about how much time they thought developing a portfolio would take.

Second, many students (72 of 283) indicated that at first they ***lacked confidence*** they could do "something like that." Their fears ranged from "I don't know how to put a portfolio together" to "I don't know what to put in a portfolio" to "This is just too difficult for me to do." Students viewed a portfolio as very different from other types of assignments they had been given in other courses before and questioned their abilities to meet the expectations set. The "newness" of portfolios caused students to questions their abilities to successfully complete the assignment.

Finally, the students were most concerned about having to ***conference with the instructor*** (75 of 283). One student's comment best represents the thoughts of many classmates,

> I am scared to death about the conference. I dread having to present my portfolio to you in your office. I am nervous about meeting with you.

Almost all of the students reported never having the experience of meeting with a professor individually to discuss their learning and performance.

In my mind, it was difficult to understand why students struggled with these issues because I began to use portfolios with all the right intentions: getting to know my students as individuals by meeting with them for individual conferences twice a semester, correlating my teaching with what students were learning, modeling alternative assessment to preservice teachers, promoting student reflection, making learning overt. I found myself beginning each semester struggling to comfort my students, easing their feelings of anxiety. The more I tried to make them at ease, the more I created anxiety. What I have learned over time was that 1) these feelings my students had were normal and should be expected, 2) no amount of explaining before they were ready would help reduce their anxiety, and 3) some things are best learned by going through the process.

<u>After the process...</u>

Almost all students (275 of 283) reported at the end of the semester that developing a portfolio and conferencing with the instructor was a "great experience." Students indicated satisfaction on a number of levels. First, because the portfolio in this course is designed specifically to evaluate whether students have met course objectives, ***students indicated a high amount of satisfaction in their portfolio showing what they had learned to both themselves and the instructor*** (58 of 283). One student remarked,

> The portfolio shows me what I have accomplished during the semester. It helped me put together what I learned and to organize my thoughts. I had to review

> everything we did during the semester to pick my pieces. We got to see first hand what we achieved this semester.

These findings were similar to those described by Biddle (1992), Dutt, et al (1997), and Olhausen & Ford (1992). Findings from this study support the ideas from Paulson and Paulson (1991) as they discuss the potential learning outcomes of using the portfolios,

> Through building a portfolio, students have the opportunity to learn -- to learn about a subject, to learn about learning, and to learn about themselves (p. 1).

So, using a portfolio to assess students can certainly provide an instruction with important information about what was learned, but it also provides the students an opportunity to learn about themselves.

Second, students also felt the ***portfolios reflected individuality*** (42 of 283). And, the portfolio allowed students to make choices about what pieces best reflected their learning. A student wrote,

> I think my portfolio accurately reflects what my beliefs and accomplishments are. It allowed me to choose what was important learning for me. I got to say what I wanted to rather than others picking out my strengths and weaknesses. That is much more useable to me.

Another student wrote,

> The portfolio lets you see what we learned and also what pieces taught us the information we learned. Everyone had different pieces for the same objective and this shows that people learn different things from different pieces.

While the procedures for the structure of the portfolio were explicit, students were able to make choices about which artifacts best represented their learning. As a result, students produced portfolios that varied in content and organization but all demonstrated achievement of each of the nine course objectives.

Third, students indicated that ***the portfolio made them reflect on their work and teaching*** by reflecting on all they had done during the semester (60 of 283). One student commented,

> It (the portfolio) made me take a closer look at my work and more critically evaluate myself. I also learned that everything I had this semester had a purpose.

One student commented directly on the value of reflection,

> This component forced me to constantly assess my own progress and improvement and was an excellent connection between student and instructor. I felt like the reaction was very key in promoting the objectives of the course, making us constantly look at where we stood and what we were learning along the way.

By providing a rationale for each piece in the portfolio and in reflecting on the portfolio, students made direct links between the work they included in their portfolios and the course objectives. This way, the students had a clear understanding of how the assignments in their portfolios helped them learn concepts in teaching. The following is an excerpt from one student's reflection,

> After keeping a portfolio for the entire semester, I think I have learned many new concepts in teaching and observed how to apply these teaching and learning theories in the classroom. Not to mention, I think my writing about educational topics has improved over the course of the semester. These selections for my portfolio most effectively represent the knowledge I have gained this semester in meeting the course objectives.

Many students indicated that they learned a great deal about teaching and learning. Their recognition of what they had learned was directly linked to their ability to provide evidence of meeting each course objective. While these data are representative of the general attitudes of students in the course towards portfolios, the following quote demonstrates how this process helped one student produce quality work as well as understand the learning process.

> The reflections demonstrate a huge learning process that I underwent this semester. If I were to write the course objectives for the class, I would add, 'To give Karen quality work!' This was heavily emphasized in our class. And the portfolio method proved effective for me. I feel like I had control of the quality of my papers.

Reflecting on their work was the key to helping students learn about teaching and learning and about themselves as learners. Students ended the semester with a clear understanding of why they completed assignments. Going through the process of receiving feedback and revising work added to the quality of work. Being "forced" to reflect on their work and the goals of the course helped students better understand the learning process. I felt a high level of satisfaction in having students be able to articulate what they learned during the course of the semester in reflections. This information was used to positively impact decisions that I made during the semester. This supports Darling Hammond's (1990) position that evaluation can and should play a role in instructional improvement. In addition, I felt students were using higher level thinking skills to analyze and synthesize course assignments in reflections. Students generally agreed that reflecting on their work during the semester by articulating what they had learned significantly contributed to their self-knowledge as a learner. These findings echo those of Berry et al (1991) as he summarized the value of self-assessment:

> The portfolio system appears to hold advantages in that it removes the teacher or student from being the evaluated object and places him/her in the central role of self-evaluator, documenter and planner of professional development. (p. 5)

The pieces of the portfolio become the vehicle by which the students reflect about their learning as the portfolio is being constructed and as the portfolio is being presented.

Fourth, students felt the ***individual conferencing increased the instructor's understanding of each student's learning*** (99 of 233). Students felt that the opportunity to explain themselves and their work provided the instructor with a better understanding of what they had learned. It is no wonder that students worry at the thought of meeting with a professor one-on-one to share what they have learned. Many of my students will be the first to tell you that they are comfortable teaching children but there is something about presenting to peers or other adults that makes them nervous. College students need to learn how to communicate effectively with other adults.

I was interested in knowing how the conference, specifically, helped the students. Of the 283 students in the sample, only 233 students participated in conferences. The first semester portfolios were incorporated into this course conferences were not held. The data reflect comments and responses from the 233 students who participated in portfolio conferences. Students indicated that the conferencing made them feel as if they had an opportunity to share information with the instructor that was important for understanding them as students. For example, one student explained,

> The portfolio helped me keep my stuff organized. The conference helped me realize my strengths and weaknesses. And I was able to show off all the neat things I have learned to you - things I wasn't (sic) sure you really knew I learned.

Another student wrote,

> It (the conference) is great because it allows you one-on-one time with the professor. You can't get away with not knowing ad reflecting on what you have learned. I think I got to explain myself and why I chose certain things. That is very important because it lets you know what I was thinking when I put my portfolio together.

Students felt the conference provided them an opportunity to "fill in the gaps" for me so that I could really understand what they learned. It gave them a chance to share information they felt was important. Students felt empowered by having time to orally communicate their thoughts to the instructor. They felt that the portfolio allowed for an authentic snapshot of what they knew. Another student explained,

> It allows us to orally communicate, using the skills we will need as teachers and in. I had the chance to explain my ideas in person instead of just on paper.

Although these same students were apprehensive about meeting with the instructor individually at the beginning of the semester, it is clear that they found value in conferencing about their portfolios with the instructor. The conference offered them an opportunity to share what they felt was important for me to know as I evaluated what they learned.

Students felt that the conference ***helped them practice for actual teaching interviews*** by developing their communication skills (93 of 233). And, along the same lines other students reported that conferencing ***made them feel more comfortable and confident*** when talking about themselves (45 of 233). One student explained,

> I have become more confident about speaking - in expressing my ideas to others. And, I now have confidence in myself, in my ability as a person, a student, and a future teacher.

Another student explained,

> I think the conferences have helped a great deal in preparing us for when we have to talk to principals in an interview. It helped me become confident about talking about myself.

One way to build oral communication skills is to provide students with an opportunity to practice and build confidence. Providing students with a structured setting in which they can receive formative feedback about their communication skills was valuable to their professional development.

Students reported having to communicate their ideas orally ***helped them reflect on their work and have a better understanding of where they stood in the course*** (30 of 233). One student described how the portfolio conference helped synthesize learning in the following,

> I feel the conference allowed me to show everything I learned. Some of the assignments, as we were doing them, felt like busy work, but when you put together your portfolio and had to talk about the pieces, you actually got to see just how much you learned from each assignment. The conference helps me see what I have accomplished in the semester. And, I had to rethink why those as well. It makes me review my work and what I do and don't (sic) want to change about myself.

Students reflected on what they accomplished during the semester both in terms of learning content and about themselves. The process of reflecting on and sharing their portfolio provided clarity about what they learned about teaching. More importantly though, the students began to identify how this knowledge impacted self-perceptions.

These data indicate that the development of a portfolio is only one piece of the whole portfolio process. Discussing their portfolios in a conference prompts additional reflection, develops communication skills and helps students feel more confident in "interview like" situations. Reflecting on learning by articulating how pieces in the portfolio demonstrate learning in accordance with course objectives contribute to students understanding of themselves as learners as well as course content.

In sum, we found at least four effects of the portfolio review process studied: 1) students reported high levels of satisfaction in their portfolio demonstrating learning across the nine course objectives; 2) the portfolio process allowed students to reflect their individuality; 3) the portfolio development and review process led to high levels of reflection in which students made connections between what they learned and the goals for the course; and 4) conferencing about the portfolio was as important as developing the portfolio in developing an understanding of student learning.

Peer review

A critical piece incorporated into the course was peer review of all work turned in during the semester. This included peer review of each other's paper, lesson plans, and midterm and final portfolio conferences. During class sessions students indicated that very few had ever peer reviewed classmates work as a part of class sessions. In many cases, students were somewhat apprehensive about critiquing each other's work. In a portfolio conference one student explained the feelings held by many,

> When I first found out that other people were going to look at my work it terrified me a little. I am not used to having peers I do not know look at my work. I found the overall experience positive in the sense that I feel more comfortable sharing my work.

Incorporating peer review into the course caused me to make changes to my own teaching practice. I found it necessary to make students feel at ease with sharing their work. Many of the students rarely had others look at their work prior to turning it in for a grade. Taking the time to teach students what to look for in their partner's writing and how to give feedback eased their concerns about being able to help their partner(s). In addition, I spent a great deal of class time with the students working in groups, so that they would begin to get to know each other and feel comfortable working with each other. The consistency with which students worked together had an impact on the effectiveness of formative review sessions. By the end of the semester, students were looking forward to hearing their group members' comments. One student expressed the comments made by many of the students in the following,

> My group member gave me a different perspective on writing style and helped me iron out mistakes which I may have overlooked myself. From this review session, I had the opportunity to examine other people's writing style and experience the process which teachers go through when correcting papers. It was also helpful because looking at other people's writing helps me improve my own writing.

Receiving feedback about their work and revising the work as a result helped students raise the quality of assignments turned in for grading. Students found value in participating in this process.

> The required rewriting of my papers has given me confidence in the final product. Much revision was completed between the original rough draft and final paper. Although the process was somewhat long, I am very satisfied with the final result. I am confident that the final copy of this work is among the best work I have ever done.

While the peer review is not itself a part of the portfolio process, it has been an essential addition to the course. The goal, of course, is to help students produce as much quality work as possible during the semester. The more success a student experiences, the more confident s/he will feel as s/he is developing the portfolio and during the conference. It has also been helpful to provide students with an opportunity to "practice" what they are going to say during the portfolio conference. It makes them more comfortable with the conference and builds confidence in the students. And, most importantly, it communicates to the students that this is not a memorization test, it is a time to clearly communicate what you have learned.

Concerns

In order to improve portfolio practice it is important to listen to students reactions; positive and negative. So, we sought to identify what students perceived as the major drawbacks in the way we structured the portfolio process. ***Almost half of the students commented that they felt their were no drawbacks*** to using a portfolio (136 of 283). One student wrote comments similar to many on the final evaluation,

> Now that I have had to put together a portfolio and used it I can't (sic) think of any drawbacks. It is a great tool for evaluating.

I found that once students have actually experienced the process it seems that they have a better understanding of the benefits of using portfolios as an evaluation tool.

The ***biggest concern reported by students was how time consuming the portfolio process was for both the teacher and the students*** (136 of 283). Some students indicated that it took a great deal of time to put together their portfolios.

> Time consuming - it is hard to accumulate things over a semester. It takes a long time to go through everything and put the portfolio together.

After making a comment like the one above, some students indicated that the time they spent putting together the portfolio was worth it. Other students worried that as a teacher it would be difficult to make time to conduct portfolio conferences. The work of Maeroff (1991) reinforces the findings here:

> Complaints are frequent in the piloting of alternative assessments because a central problem is figuring out how to accomplish the assessment in a manageable time period. (p. 277)

Students in this study struggled with the ambiguity presented in developing a portfolio. Many admitted to wanting me to "just tell them" how to put their portfolios together. And, rarely had any professor asked them to review all the work they had done during the course of a semester. For some, the time issue was one of simply organizing materials. For others, it had to do with the time it took to review all their pieces, reflect and choose which pieces to use.

There were some other concerns voiced by a small number of students which included: students could not include all of their work from the semester in their portfolio, students felt there were too many course objectives and that they were not understandable, students were concerned that the grading was too subjective, students felt they were better at taking tests, and students felt the materials they needed to buy for the portfolio were too expensive. While these concerns are not to be completely dismissed, it is apparent to me that the portfolio process as described in this study offered more advantages than disadvantages. Certainly the issues raised by these students could be addressed by me at any time during the semester. And, students indicated that these concerns impacted their experience in using a portfolio in a negative way.

Summary

Based on findings from this study and in consideration of other related studies, there are four observations to consider. First, the development and sharing of portfolios offers students an opportunity to develop self-knowledge about their learning. Participating in a structured portfolio conference can further enhance reflection by forcing students to articulate learning for others.

Second, using a portfolio to evaluate students' learning allows for a certain amount of individuality. While the structure of the portfolio may be explicit, students can more easily demonstrate what they felt was most important. Student must be involved in the process of decision making. It will take time to shift from the paradigm of teacher as

primary decision maker to teacher as facilitator. I struggle when students struggle with coming to consensus in a decision; especially when it is a different decision than I would have made myself. And, I struggle when students ask me to "just tell them what to do" because this is what they are used to and it is easier than working through the process of group decision making. In the end, students do feel ownership and they have learned the very important skill of working with peers.

Third, it is normal to receive some negativity from the students prior to actually putting the portfolio together and even as the process is ongoing during the semester. I was quick to assume that this meant the portfolio process was not working. I wanted my students to love the process and have a great time doing it. But, this was not always the case. Until they actually participate in the conference and recognize what they have learned it is difficult for them to appreciate the process. As the data indicate, all but eight students felt the process was worthwhile regardless of the amount of work and regardless of how difficult the process was along the way. At the end of the semester, students felt they had a strong sense of what they learned, how they learned it, why it was important, and how it contributed to their own professional development.

Lastly, it is important to remember that teaching practices and assessment practices will influence each other. I have learned that my teaching needs to consistently integrate course objectives into classroom activities, discussions, and assignments. I have learned that the course objectives need to truly reflect what I want to accomplish with my students. And, I must provide my students with opportunities to document their learning and reflection. In addition, I must always reflect on my course objectives to see how closely my instruction is aligned with my goals. I have learned that a portfolio is more than just an assessment tool. It is one part of my teaching practice. It would not be realistic to "tack on" the use of a portfolio in a class without considering the possible implications for teaching practice. In looking back at my teaching style, I have noticed that my teaching has incorporated more active learning strategies in which the students discuss, share, reflect, think, experience.

Some Final Comments

For college professors concerned with improving the quality of student learning, data from this study indicate that implementing portfolios may be a viable alternative. Educators should consider the use of portfolios in the college classroom. Having students articulate what they learned from an instructional method can inform practice. In this case, students in a teacher education course provide insight about how portfolios helped them meet educational goals set for them (Webb, 1993) and made them more aware of both the

learning process and themselves (Paulson & Paulson, 1991). In the process, students learned some valuable skills necessary for effective teaching. Portfolio assessment can provide students with an understanding of how teaching and evaluation are connected. Portfolio assessment as described here, helped students address goals for a course and demonstrate how these goals had been met during the course of the semester. The portfolio process helped students become confident in their learning and in their ability to share their ideas with another professional.

Appendix A

1. Future educators will provide learning opportunities that take into consideration, as they plan and teach instructional events, how children learn and develop (INTASC #2).

2. Future educators will understand and use a variety of instructional strategies and be able to describe how planning, teaching and classroom management vary according to the strategy chosen (INTASC#4,7, NBPTS #2).

3. Future educators will critically analyze classroom situations by applying educational research as a means of teacher decision-making in the classroom (INTASC #9).

4. Future educators will implement effective teaching and management practices and provide meaningful learning experiences suggested by educational research into their own planning and teaching (INTASC #1, NBPTS #3).

5. Future educators will reflect on their own decisions and actions and be able to provide critical feedback to peers (INTASC #9, NBPTS #4).

6. Future educators will create a positive learning environment for ALL students that encourages positive social interaction, active engagement in learning, self-motivation, and creates instructional opportunities that are adapted to diverse learners (INTASC #3 & #5 & #9, NBPTS #1).

7. Future educators will begin to develop a personal and professional philosophy about teaching as well as identify ways to put their beliefs into practice.

8. Future educators will demonstrate an ability to collaborate with other educators via interactions with field experience teacher, fellow students, and college professor in planning and executing lessons (INTASC #10, NBPTS #5)

9. Future educators will utilize technology to communicate with college professor and peers, as well as complete assignments.

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